UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,360	10/12/2000	Kazuo Aisaka	XA-9375	5849

7590   02/27/2004

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ART UNIT	PAPER NUMBER
2186	5.

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _12 October 2000_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-21_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-21_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _12 October 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _2_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Priority

1.   Acknowledgment is made of applicant's claim for foreign priority under 35

U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/688,360 filed

on January 26, 2001 (Paper no. 3).

Information Disclosure Statement

2.   The information disclosure statement filed on October 12, 2000 (Paper no. 2) has been

considered.

Claim Objections

3.   Claims 8 and 9 are objected to under 37 CFR 1.75(c) as being in improper form because a

multiple dependent claim 6 or 7. See MPEP § 608.01(n). Accordingly, the claims 8 and 9 have

not been further treated on the merits.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

5.   Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

Regarding claim 1, recites the limitation "the attributes" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 4, recites the limitation "the attributes" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 5, the term "any" renders the claim indefinite because it is unclear whether the limitations following the phrase are one, some, or all indiscriminately of whatever quantity.

Regarding claim 6, recites the limitation "the contents" the in line 11. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 7, recites the limitation "the control" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 10, recites the limitation "the attributes" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 11, the term "any" renders the claim indefinite because it is unclear whether the limitations following the phrase are one, some, or all indiscriminately of whatever quantity.

Regarding claim 13, recites the limitation "the contents" the in line 13. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 14, the term "any" renders the claim indefinite because it is unclear whether the limitations following the phrase are one, some, or all indiscriminately of whatever quantity.

Regarding claims 2-3, 8-9, 12 and 15 are also rejected because of depending on claims 1, 4, 10 and 13, respectively, containing the same deficiency.

The following art rejections are applied from what is best understood of the claim(s) in view of the 112 Second paragraph problems listed above.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dahlen et al. (US PAT. 5,581,737 hereinafter Dahlen).

Regarding claim 1, Dahlen discloses method of allocating resources available on a computer system, i.e., multiple processing system (figure 2) to run a plurality of program units, i.e., a plurality of data processing systems (10A-10N, figure 2 and col. 5 line 66 through col. 6 line 33) concurrently, comprising a step of receiving a request, i.e., command for running a program unit, a step of obtaining parameters that represent the attributes of the program unit (col. 6 lines 35-60, col. 13 line 6 through col. 14 line 15, col. 21 lines 21-37 and col. 42 line 57 through col. 19), a step of allocating resources required to run the program unit, based on a resource allocation table, i.e., directory (60, figure 2) and a cache management table, i.e., directory-entry lookup table, as well as the parameters, a step of registering results of the

allocation resources into the resource allocation table, and a step of registering an allocation

storage domain of a cache memory to be used for the program unit into the cache management

table (col. 7 line 22 through col. 8 line 23, col. 13 line 48 through col. 14 line 7, col. 17 line 38

through col. 18 line 22, col. 21 lines 19-37 and col. 32 lines 10-54).

Regarding claim 2, Dahlen discloses the method of allocating resources wherein the

parameters give positional information for a principal part to be executed at a high frequency in

the program unit (col. 8 lines 24-32 and col. 14 lines 8-16), the resource allocation table has

address reference information on a main storage to be used for program units as well as the

program unit (col. 7 line 23 through col. 8 line 23), the cache management table lists addresses of

the cache memory and program units mapped in cache address domains, i.e., data elements,

specifying an address for the program, and the step of allocating resources determines an address

of area to be used for the program unit in the main storage, ensuring that the principal part of the

program unit is assigned an entry address of free cache area, based on the positional information

for the principal part, the address reference information, and the cache management table (col. 18

lines 23-57, col. 21 col. 38 through col. 29 line 4 and col. 29 line 54 through col. 32 line 9).

Regarding claim 3, Dahlen discloses the method of allocating resources wherein the

resource allocation table has address reference information on a main storage to be used for

program units as well as the program unit (col. 8 lines 24-32 and col. 14 lines 8-16), the cache

management table lists pages of the cache memory and program units mapped in cache pages,

specifying a page or pages for the program unit (col. 32 line 10 through col. 33 line 33), and the

step of allocating resources determines an address of area to be used for the program unit in the

main storage, based on the address reference information and the cache management table as

well as the parameters (col. 17 line 63 through col. 18 line 37, col. 29 line 54 through col. 32 line 9).

Regarding claim 4, the limitations of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 5, Dahlen discloses the operating system wherein the cache memory (26, figure 3) has entry address domains (56, figure 3), each of which is specified by an entry address (col. 7 line 23 through col. 8 line 23), the parameters give positional information for a principal part to be executed at a high frequency in the program unit (col. 8 lines 24-32 and col. 14 lines 8-16), the resource allocation table has address reference information on a main storage to be used for program units (col. 7 line 23 through col. 8 line 23), the cache management table lists addresses of the cache memory and program units mapped in cache address domains i.e., data elements (col. 29 line 54 through col. 32 line 9), and the allocating resources determines an address of area to be used for the program unit in the main storage ensuring that an entry address to be assigned for the principal part of be executed at a high frequency in the program unit differs from an entry address assigned for any part to be executed at a high frequency in any program unit other than the program unit, based on the positional information for the principal part, the address reference information, and the contents of the cache management table, i.e., a list of commands including an allocation command with checkpoint requested, an apportionment-priority indicator which contains higher priority than maximizing the amount of storage resources that are assigned to the structure (col. 13 line 6 through col. 14 line 15, col. 17 line 38 through col. 18 line 41 and col. 21 col. 38 through col. 29 line 53).

Regarding claim 6, Dahlen discloses the operating system wherein the cache memory has a plurality of pages, i.e., data area (1-m), the resource allocation table has address reference information on a main storage to be used for program units, the cache management table lists pages of the cache memory and program units mapped in cache pages (col. 32 line 10 through col. 33 line 33), and the allocating resources determines an address of area to be used for the program unit in the main storage based on the positional information for the principal part, the address reference information, and the contents of the cache management table (col. 17 line 63 through col. 18 line 37, col. 29 line 54 through col. 32 line 9).

Regarding claim 7, Dahlen discloses the operating system wherein rewriting of a cache page register is performed according to the contents of the cache management table when the control of execution transfers from the program unit to another program unit (col. 9 line 3 through col. 10 line 28).

Regarding claims 8-9, Dahlen discloses the operating system wherein the allocating resources includes determining the number of pages of the cache memory to be assigned for the program unit, based on execution priority information that is given by some of the parameters and the allocating resources includes determining the number of program nits to be mapped for a specific page of the cache memory, based on execution priority information that is given by some of the parameters (col. 13 line 6 through col. 14 line 15, col. 17 line 38 through col. 18 line 41 and col. 21 col. 38 through col. 29 line 53).

Regarding claim 10, the limitations of the claim are rejected as the same reasons set forth in claim 1.

Regarding claim 11, the limitations of the claim are rejected as the same reasons set forth in claim 5.

Regarding claim 12, the limitations of the claim are rejected as the same reasons set forth in claim 6.

Regarding claim 13, Dahlen discloses a computer system (figure 2) including a CPU (10A, figure 2), a cache (26, figure 3), and storage, i.e., data table (55, figure 3), and running a plurality of program units concurrently, the computer system having a resource allocation table, i.e., directory (60, figure 2), into which results of allocating resources are registered and a cache management table, i.e., directory-entry lookup table, into which allocated storage domains of the cache memory are registered, the storage including an area for storing an operating system that controls the computer system, i.e., (SES facility 16, figure 3), and when running one of the plurality of program units, the operating system obtaining parameters for the program unit and allocating resources for the program unit, based on the contents of the resource allocation table and the cache management table as well as the parameters (col. 18 lines 23-57, col. 21 col. 38 through col. 29 line 4 and col. 29 line 54 through col. 32 line 9).

Regarding claim 14, the limitations of the claim are rejected as the same reasons set forth in claim 5.

Regarding claim 15, the limitations of the claim are rejected as the same reasons set forth in claim 6.

Regarding claim 16, Dahlen discloses an operating system for controlling a computer system to run a plurality of program units (CPCs 10A-10N, figure 2) concurrently, when the computer system runs one of the plurality of program units, the operating system allocating

resources for the program unit, ensuring that an entry address of a cache memory to be used for

the principal part of the program unit differs from an entry address of the cache memory used for

the principal part of one of the plurality of program units other than the program unit (col. 13 line

6 through col. 14 line 15, col. 17 line 38 through col. 18 line 41 and col. 21 col. 38 through col.

29 line 53).

Regarding claims 17-18, Dahlen discloses the operating system wherein the allocating

resources is executed by means of resource allocation included in the operation system (col. 9

line 3 through col. 10 line 28, col. 13 line 6 through col. 14 line 16 and col. 17 line 38 through

col. 18 line 22), and the operating system has been stored into storage of the computer system

(col. 7 line22 through col. 8 line 32).

Regarding claim 19, the limitations of the claim are rejected as the same reasons set forth

in claim 16.

Regarding claims 20-21, the limitations of the claims are rejected as the same reasons set

forth in claim 17-18.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

DeKoning et al. (US PAT. 6,216,199) discloses hardware mechanism for managing cache

structures in a data storage system (abstract).

9.   Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 746-7238

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Fourth Floor (Receptionist).

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Zhuo H. Li whose telephone number is 703-305-3846. The

examiner can normally be reached on Tuesday to Friday from 9:30 a.m. to 7:00 p.m. The

examiner can also be reached on alternate Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew Kim, can be reached on (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-3900.

Zhuo H. Li

Art Unit 2186

MATTHEW KIM
SUPERVISORY PATENT EXAMINER
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